

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A multilayer ionizing radiation sensitive element including:
 - a substrate;
 - a conductive layer overlying said substrate;
 - an ionizing radiation sensitive layer overlying said conductive layer, operative to convert ionizing radiation impinging thereon to charge carriers; and
 - an ionizing radiation transmissive blocking layer exposed to ionizing radiation and optical radiation, overlying said ionizing radiation sensitive layer, which generally limits the passage of charges, of at least one polarity, therethrough and blocks optical radiation, of at least one spectral band, from penetrating therethrough, while permitting passage therethrough of ionizing radiation.
2. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and further comprising a charge buffer layer, disposed between said ionizing radiation sensitive layer and said conductive layer and which generally limits the passage of charges, of at least a second polarity, therethrough.
3. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein said ionizing radiation sensitive layer is a photoconductor formed of doped amorphous selenium.
4. (Original) A multilayer ionizing radiation sensitive element according to claim 3, in which the doped amorphous selenium is made of amorphous selenium doped with arsenic and chlorine.
5. (Original) A multilayer ionizing radiation sensitive element according to claim 3 and wherein the charge buffer layer is formed of amorphous arsenic triselenide.
6. (Original) A multilayer ionizing radiation sensitive element according to claim 3 and wherein the blocking layer is formed of alkali doped selenium.

7. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein said ionizing radiation sensitive layer is a photoconductor selected from the group consisting of a selenium alloy, lead iodide, lead oxide thallium bromide, cadmium telluride, cadmium zinc telluride, cadmium sulfide, and mercury iodide.

8. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein the blocking layer is formed of a dielectric polymer carrier loaded with selected pigments or dyes.

9. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and further comprising an interstitial dielectric passivation layer disposed between the ionizing radiation sensitive layer and the blocking layer .

10. (Original) A multilayer ionizing radiation sensitive element according to claim 9 and wherein the interstitial dielectric passivation layer is formed of poly-para-xylylenes.

11. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein the conductive layer is patterned.

12. (Original) A multilayer ionizing radiation sensitive element according to claim 10 and wherein the patterned conductive layer is selected from the group consisting of indium tin oxide (ITO), aluminum, gold, platinum, and chromium.

13. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein said substrate is selected from the group consisting of glass, ceramic, and metal coated with a dielectric material.

14. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein said at least one spectral band of optical radiation includes photons having energy higher than a characteristic band gap energy of said ionizing radiation sensitive layer and wherein optical radiation having photon energy lower than said band gap

energy of said ionizing radiation sensitive layer generally penetrates through said blocking layer.

15. (Original) A multilayer ionizing radiation sensitive element according to claim 1 and wherein said ionizing radiation sensitive layer is sensitive to X-ray radiation.

16-52. (Cancelled)